

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 12525400/SEW/GC	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/AU2004/001614	International filing date (day/month/year) 19 November 2004	Priority date (day/month/year) 19 November 2003	
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ G01S 1/08, G08B 25/00			
Applicant TRACME BEACONS PTY LTD et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 12 May 2005	Date of completion of the report 16 November 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer DEREK BARNES Telephone No. (02) 6283 2198

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-9 as originally filed/furnished
- pages* received by this Authority on with the letter of
- pages* received by this Authority on with the letter of
- ☒ the claims:
- pages as originally filed/furnished
- pages* as amended (together with any statement) under Article 19
- pages* 10-13 received by this Authority on 3 June 2005 with the letter of 31 May 2005
- pages* received by this Authority on with the letter of
- ☒ the drawings:
- pages 1/8-8/8 as originally filed/furnished
- pages* received by this Authority on with the letter of
- pages* received by this Authority on with the letter of
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001614

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-22	YES
	Claims nil	NO
Inventive step (IS)	Claims 1-22	YES
	Claims nil	NO
Industrial applicability (IA)	Claims 1-22	YES
	Claims nil	NO

2. Citations and explanations (Rule 70.7)**CITATIONS**

D1: US 6195039 B1 (GLASS, Jr.) 27 February 2001

D2: US 6275164 B1 (MACCONNELL et al) 14 August 2001

NOVELTY (N) and INVENTIVE STEP (IS)

None of the documents listed in the International Search Report, nor an obvious combination of these documents, disclose all the features defined in claim 1. Therefore claim 1 and its appended claims 2-22 are novel and have an inventive step. Specifically no document or combination of documents discloses a single-use personal locator beacon including a one-way switch for automatically connecting the power supply to the wireless transmitter when a major portion of the inner case is removed from the outer case and wherein the switch is not operable to disconnect the power supply from the wireless transmitter after the major portion of the inner case is removed from the outer case whereby the beacon is a single-use beacon.

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CLAIMS

1. A single-use personal locator beacon including:

an outer case open at one end and an inner case having a major portion removably
5 received within the outer case leaving a minor portion extending outside the outer case,
wherein, when the inner case is within the outer case, the outer case and the inner case can
be carried on or by a user whereby the beacon is a personal beacon;

a wireless transmitter and a power supply within the inner case; and

a one-way switch for automatically connecting the power supply to the wireless
10 transmitter to thereby activate the wireless transmitter to transmit a signal when the major
portion of the inner case is removed from the outer case, wherein the switch is not operable
to disconnect the power supply from the wireless transmitter after the major portion of the
inner case has been removed from the outer case whereby the beacon is a single-use
beacon.

15

2. A single-use personal locator beacon according to claim 1, wherein the one-way
switch is a sliding switch slidably mounted within the inner case in an open position when
the major portion of the inner case is disposed within the inner case, the sliding switch
engaging one end of an activation pin slidably mounted in the inner case and the other end
20 of the activation pin projecting exteriorly of the inner case in a gap provided between
facing surfaces of the major portion of the inner case and the outer case, wherein the
projecting end of the activation pin is depressed into the inner case by a ramp on an inner
surface of the outer case during removal of the major portion of the inner case from the
outer case so that the activation pin moves the sliding switch to a closed position whereby
25 the wireless transmitter is activated.

3. A single-use personal locator beacon according to claim 2, wherein the sliding
switch freely engages with and releases from the activation pin so that the sliding switch
cannot be returned to the open position by withdrawing the activation pin from the inner
30 case.

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4. A single-use personal locator beacon according to any preceding claim, wherein the inner case and the outer case are releasably locked together via a locking pin when the major portion of the inner case is disposed within the outer case, the locking pin extending through a hole formed in the closed end of the outer case, one end of the locking pin
5 releasably locking the inner case and the outer case together and the other end of the locking pin being provided with a pull ring disposed exteriorly of the outer case, wherein pulling the pull ring away from the closed end of the outer case unlocks the inner case from the outer case so that the major portion of the inner case can be removed from the outer case whereby the wireless transmitter is activated.
- 10
5. A single-use personal locator beacon according to claim 4, wherein, in use, the personal locator beacon is attached to a user via the pull ring such that the radio transmitter can be activated by the user pulling the minor portion of the inner case with one hand away from the attached pull ring.
- 15
6. A single-use personal locator beacon according to any preceding claim, further including an antenna operatively connected to the wireless transmitter.
7. A single-use personal locator beacon according to claim 6, wherein the antenna is
20 an external whip antenna on the major portion of the inner case that is biased compressed when the major portion of the inner case is disposed within the outer case such that the antenna automatically springs to deploy when the major portion of the inner case is removed from the outer case.
- 25
8. A single-use personal locator beacon according to claim 7, wherein the inner case is adapted to float with a lower portion below a waterline when the beacon is deployed on water, and wherein on deployment the antenna springs upwardly away from the lower portion of the inner case to a generally upright extended position above the waterline.

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9. A single-use personal locator beacon according to any preceding claim, further including a microprocessor and an associated memory for selectively controlling the wireless transmitter.

5 10. A single-use personal locator beacon according to claim 9, wherein the memory is programmable to store a selected signal for transmission by the wireless transmitter.

11. A single-use personal locator beacon according to any preceding claim, wherein the signal transmitted by the wireless transmitter is a voice message.

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12. A single-use personal locator beacon according to any preceding claim, further including a GPS receiver for receiving GPS location data, and wherein the signal transmitted by the wireless transmitter includes GPS location data.

15 13. A single-use personal locator beacon according to any preceding claim, wherein the beacon is portable and has a volume of less than around 150 cm^3 when the major portion of the inner case is disposed within the outer case.

14. A single-use personal locator beacon according to claim 13, wherein the beacon has
20 a volume of around 75 cm^3 when the major portion of the inner case is disposed within the outer case.

15. A single-use personal locator beacon according to any preceding claim, further including a speaker or an audible alarm transducer.

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16. A single-use personal locator beacon according to any preceding claim, further including a display panel for displaying information associated with the beacon.

17. A single-use personal locator beacon according to any preceding claim, further
30 including a thread interconnecting the inner case and the outer case when the major portion

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of the inner case is removed from the outer case, wherein the thread is frangible and/or reflective.

18. A single-use personal locator beacon according to any preceding claim, wherein the
5 beacon is adapted to float.

19. A single-use personal locator beacon according to any preceding claim, wherein the
wireless transmitter is a radio transmitter and the signal transmitted by the wireless
transmitter is a radio signal.
10

20. A single-use personal locator beacon according to claim 19, wherein the radio
transmitter is a UHF radio transmitter and the radio signal is a UHF radio signal.

21. A single-use personal locator beacon according to claim 19 or 20, further including
15 a radio receiver.

22. A single-use personal locator beacon substantially as described with reference to
the accompanying drawings.